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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,884

06/14/2006

Takashi Kikuchi

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03/26/2008

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EXAMINER

MAZUMDAR, SONYA

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

03/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,884	Applicant(s) KIKUCHI ET AL.	
	Examiner SONYA MAZUMDAR	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2006 and 12 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/14/2006, 10/12/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 4, 5, and 9 are rejected under 35 U.S.C. 102(b) as being unpatentable by Hase et al. (JP2002-361744).

With respect to claims 1-3 and 9, Hase et al. teach making a laminate comprising a metallic foil (1) and a heat-resistant adhesive film (2), where the method comprises:

performing thermal lamination by passing the adhesive film and the metal foil between a first-stage set of metal rollers (4a) through a protective film;

slow-cooling the laminate by passing the laminate through a second-stage set of rollers (4b), set at a lower temperature than the laminating temperature;

separating the protective film from the laminate (abstract; paragraphs 0008 and 0010).

With respect to claim 4, Hase et al. teach performing the slow-cooling step by a 50°C difference between the laminating temperature (paragraphs 0009 and 0020).

With respect to claim 5, Hase et al. teach performing thermal lamination at 200°C, at least, thus the slow-cooling step would be performed at 150°C, at least, because of the required 50°C difference between the two steps (paragraphs 0005 and 0020).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hase et al., as applied to claim 1 above, and further in view of Nakano (US 5,165,990) and Kimura et al. (JP-06335978)

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The teachings of claim 1 are as described above.

Although Hase et al. teach gradually cooling a laminate to a temperature near the glass transition temperature of the adhesive film to prevent wrinkles (paragraph 0008), Hase et al. do not mention a specific cooling rate. However, as Nakano teaches, it would have been obvious to one having ordinary skill in the art to cool a laminate at a specific rate according to the conditions of the layers of the laminate between a press or pair of metal rollers (column 13, lines 43-45; column 18, lines 18-21). Kimura et al. further teach to cool according to the adhesive resin used, affecting the curvature and torsion of a laminate (paragraph 0013).

7. Claims 7, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hase et al. in view of Nakano and Kimura et al.

With respect to claim 7, Hase et al. teach making a laminate comprising a metallic foil (1) and a heat-resistant adhesive film (2), where the method comprises:

performing thermal lamination by passing the adhesive film and the metal foil between a first-stage set of metal rollers (4a) through a protective film;

slow-cooling the laminate by passing the laminate through a second-stage set of rollers (4b), set at a lower temperature than the laminating temperature;

separating the protective film from the laminate (abstract; paragraphs 0008 and 0010).

Although Hase et al. teach gradually cooling a laminate to a temperature near the glass transition temperature of the adhesive film to prevent wrinkles (paragraph 0008), Hase et al. do not mention a specific cooling rate. However, as Nakano teaches, it would have been obvious to one having ordinary skill in the art to cool a laminate at a specific

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rate according to the conditions of the layers of the laminate between a press or pair of metal rollers (column 13, lines 43-45; column 18, lines 18-21). Kimura et al. further teach to cool according to the adhesive resin used, affecting the curvature and torsion of a laminate (paragraph 0013).

With respect to claim 8, Hase et al. teach performing thermal lamination at 200°C, at least, thus the slow-cooling step would be performed at 150°C, at least, because of the required 50°C difference between the two steps (paragraphs 0005 and 0020).

With respect to claim 9, Hase et al. teach slow-cooling a laminate by passing the laminate through a second-stage set of rollers (4b), set at a lower temperature than the laminating temperature (abstract; paragraphs 0008 and 0010).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SONYA MAZUMDAR whose telephone number is (571)272-6019. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SM

/Philip C Tucker/

Supervisory Patent Examiner, Art Unit 1791